APR 22 2002 G

SEQUENCE LISTING

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Smock, Steven L.

<120> Canine Parathyroid Hormone 1 Receptor

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<140> US 09/943,446

<141> 2001-08-30

<150> US 60/229,170

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<400> 3D 60 atggggaccg cccggatcgc acccagcctg gcgctccttc tctgctgccc agtgctcagc 120 tccgcatatg cgctggtgga cgcagacgat gtctttacca aagaggaaca gattttcctg 180 ctgcaccgtg cccaggcgca atgtgacaag ctgctcaagg aagttctgca cacagcagcc aacataatgg agtcagacaa agggtggact ccagcatcta cgtcagggaa gcccaggaaa 240 300 gagaaggcac cgggaaagtt ctaccccgag tctaaagaga acaaggatgt gcccaccggc 360 agcaggcgcc gagggcgtcc ctgtctgcca gagtgggaca acatcgtttg ctggccattg 420 ggggcaccag gtgaagtggt ggcagtacct tgtcccgatt acatttatga cttcaaccac 480 aaaggccatg cctacagacg ctgcgaccgc aatggcagct gggaggtggt tccagggcac aaccggacgt gggccaacta cagcgagtgc ctcaagttca tgaccaatga gactcgggaa 540 cgggaggtat ttgaccgcct gggcatgatc tacaccgtgg gatattccat gtctcttgcc 600 660 teceteaceg tggetgtget cateetagee tattttagge ggetgeactg caegegeaac 720 tacatccaca tgcacatgtt cctgtcgttt atgctgcgcg ccgcgagcat cttcgtgaag 780 gacgctgtgc tctactctgg cttcacgctg gatgaggccg agcgcctcac ggaggaagag ttgcatatca tcgcgcaggt gccgcctccg cccgccgctg ccgccgttgg ctacgctggc 840 tgccgtgtgg ccgtgacctt cttcctctac ttcctggcta ccaactacta ctggattctg 900 gtggagggac tgtacttaca cagceteate tteatggeet tttteteaga gaagaagtat 960 ctgtggggct tcaccatctt tggctggggt ctgccggctg tcttcgtggc tgtgtgggtc 1020 ggtgtcagag caacettgge caacactggg tgctgggace tgagetetgg gcacaagaag 1080 tggatcatcc aggtgcccat cctggcatct gttgtgctca acttcatcct ctttatcaac 1140 1200 atcatccggg tgcttgccac taagcttcgg gagaccaatg cgggccggtg tgacaccagg cagcagtacc ggaagctgct caggtccacg ttggtgcttg tgccactctt cggtgtccac 1260 tacaccgtct tcatggcctt gccgtacacc gaggtctcag ggacactgtg gcagatccag 1320 1380 atgcactatg agatgetett caacteette cagggatttt ttgttgeeat catatactgt ttctgcaatg gtgaggtgca ggcagagatt aggaagtctt ggagccgctg gacactggca 1440 1500 ttggacttca agcgtaaagc acgaagtggg agtagcagct acagctatgg cccaatgggt gcacacacga gtgtgaccaa tgtgggcccc cgtgcaggac tcagccttcc ccttagcccc 1560 cgcctgcttc ctgccaccac caatggccac tcccagctgc ctggccacgc caagccgggc 1620 gctccagcca ttgagaacga aaccatacca gttactatga cagttcccaa ggacgacggc 1680 ttccttaatg gctcctgctc gggtctggat gaggaggcct ctgggtctgc gcggccacct 1740 ccattgttgc aggaagaatg ggaaacagtc atgtga 1776

<210> 2A

<211> 595

<212> PRT

<213> Canis Familiaris

<400> 2A

Met Gly Ala Val Arg Ile Ala Pro Gly Leu Ala Leu Leu Cys Cys 1 5 10 15

Pro Val Leu Ser Ser Ala Tyr Ala Leu Val Asp Ala Asp Asp Val Met 20 25 30

Thr Lys Glu Glu Gln Ile Phe Leu Leu His Arg Ala Gln Ala Gln Cys 35 40 45

Gln Lys Arg Leu Lys Glu Val Leu Gln Arg Pro Ala Asp Ile Met Glu 50 55 60

Ser Asp Lys Gly Trp Ala Ser Ala Ser Thr Ser Gly Lys Pro Lys Lys 65 70 75 80

Glu Lys Ala Ser Gly Lys Leu Tyr Pro Glu Ser Glu Glu Asp Lys Glu 85 90 95

Val Pro Thr Gly Ser Arg His Arg Gly Arg Pro Cys Leu Pro Glu Trp 100 105 110

Asp His Ile Leu Cys Trp Pro Leu Gly Ala Pro Gly Glu Val Val Ala 115 120 125

Val Pro Cys Pro Asp Tyr Ile Tyr Asp Phe Asn His Lys Gly His Ala 130 135 140

Tyr Arg Arg Cys Asp Arg Asn Gly Ser Trp Glu Leu Val Pro Gly His 145 150 155 160

Asn Arg Thr Trp Ala Asn Tyr Ser Glu Cys Val Lys Phe Leu Thr Asn 165 170 175

Glu Thr Arg Glu Arg Glu Val Phe Asp Arg Leu Gly Met Ile Tyr Thr 180 185 190

Val Gly Tyr Ser Val Ser Leu Ala Ser Leu Thr Val Ala Val Leu Ile

105	2.0.0	205
195	200	205

Leu	Ala 210	Tyr	Phe	Arg	Arg	Leu 215	His	Cys	Thr	Arg	Asn 220	Tyr	Ile	His	Met
His 225	Leu	Phe	Leu	Ser	Phe 230	Met	Leu	Arg	Ala	Val 235	Ser	Ile	Phe	Val	Lys 240
Asp	Ala	Val	Leu	Tyr 245	Ser	Gly	Ala	Thr	Leu 250	Asp	Glu	Ala	Glu	Arg 255	Leu
Thr	Glu	Glu	Glu 260	Leu	Arg	Ala	Ile	Ala 265	Gln	Ala	Pro	Pro	Pro 270	Pro	Thr
Ala	Ala	Ala 275	Gly	Tyr	Ala	Gly	Cys 280	Arg	Val	Ala	Val	Thr 285	Phe	Phe	Leu
Tyr	Phe 290	Leu	Ala	Thr	Asn	Tyr 295	Tyr	Trp	Ile	Leu	Val 300	Glu	Gly	Leu	Tyr
Leu 305	His	Ser	Leu	Ile	Phe 310	Met	Ala	Phe	Phe	Ser 315	Glu	Lys	Lys	Tyr	Leu 320
Trp	Gly	Phe	Thr	Val 325	Phe	Gly	Trp	Gly	Leu 330	Pro	Ala	Val	Phe	Val 335	Ala
Val	Trp	Val	Ser 340	Val	Arg	Ala	Thr	Leu 345	Ala	Asn	Thr	Gly	Cys 350	Trp	Asp
Leu	Ser	Ser 355		Asn	Lys	Lys	Trp 360	Ile	Ile	Gln	Val	Pro 365	Ile	Leu	Ala
Ser	Ile 370				Phe					Asn	Ile 380	Val	Arg	Val	Leu
Ala 385		Lys	Leu	Arg	Glu 390	Thr	Asn	Ala	Gly	Arg 395	Cys	Asp	Thr	Arg	Gln 400
Gln	Tyr	Arg	Lys	Leu 405		Lys	Ser	Thr	Leu 410		Leu	Met	Pro	Leu 415	Phe
Gly	Val	His	Tyr 420		Val	Phe	Met	Ala 425		Pro	Tyr	Thr	Glu 430	Val	Ser
Gly	Thr	Leu 435		Gln	. Val	Gln	Met 440		Tyr	Glu	. Met	Leu 445		Asn	Ser

Val Gln Ala Glu Ile Lys Lys Ser Trp Ser Arg Trp Thr Leu Ala Leu 465 470 475 480

Asp Phe Lys Arg Lys Ala Arg Ser Gly Ser Ser Ser Tyr Ser Tyr Gly
485 490 495

Pro Met Val Ser His Thr Ser Val Thr Asn Val Gly Pro Arg Ala Gly 500 505 510

Leu Gly Leu Pro Leu Ser Pro Arg Leu Leu Pro Ala Ala Ala Thr 515 520 525

Thr Thr Ala Thr Thr Asn Gly His Pro Pro Ile Pro Gly His Thr Lys 530 535 540

Pro Gly Ala Pro Thr Leu Pro Ala Thr Pro Pro Ala Thr Ala Ala Pro 545 550 555 560

Lys Asp Asp Gly Phe Leu Asn Gly Ser Cys Ser Gly Leu Asp Glu Glu 565 570 575

Ala Ser Ala Pro Glu Arg Pro Pro Ala Leu Leu Gln Glu Glu Trp Glu 580 585 590

Thr Val Met 595

<210> 2B

<211> 591

<212> PRT

<213> Rattus Norvegicus

<400> 2B

Met Gly Ala Ala Arg Ile Ala Pro Ser Leu Ala Leu Leu Cys Cys 1 5 10 15

Pro Val Leu Ser Ser Ala Tyr Ala Leu Val Asp Ala Asp Asp Val Phe

Thr Lys Glu Glu Gln Ile Phe Leu Leu His Arg Ala Gln Ala Gln Cys 35 40 45

Asp Lys Leu Leu Lys Glu Val Leu His Thr Ala Ala Asn Ile Met Glu Ser Asp Lys Gly Trp Thr Pro Ala Ser Thr Ser Gly Lys Pro Arg Lys Glu Lys Ala Ser Gly Lys Phe Tyr Pro Glu Ser Lys Glu Asn Lys Asp Val Pro Thr Gly Ser Arg Arg Gly Arg Pro Cys Leu Pro Glu Trp Asp Asn Ile Val Cys Trp Pro Leu Gly Ala Pro Gly Glu Val Val Ala Val Pro Cys Pro Asp Tyr Ile Tyr Asp Phe Asn His Lys Gly His Ala Tyr Arg Arg Cys Asp Arg Asn Gly Ser Trp Glu Val Val Pro Gly His Asn Arg Thr Trp Ala Asn Tyr Ser Glu Cys Leu Lys Phe Met Thr Asn Glu Thr Arg Glu Arg Glu Val Phe Asp Arg Leu Gly Met Ile Tyr Thr Val Gly Tyr Ser Met Ser Leu Ala Ser Leu Thr Val Ala Val Leu Ile Leu Ala Tyr Phe Arg Arg Leu His Cys Thr Arg Asn Tyr Ile His Met His Met Phe Leu Ser Phe Met Leu Arg Ala Ser Ile Phe Val Lys Asp Ala Val Leu Tyr Ser Gly Phe Thr Leu Asp Glu Ala Glu Arg Leu Thr Glu Glu Glu Leu His Ile Ile Ala Gln Val Pro Pro Pro Ala Ala Ala Val Gly Tyr Ala Gly Cys Arg Val Ala Val Thr Phe Phe 2.85 Leu Tyr Phe Leu Ala Thr Asn Tyr Tyr Trp Ile Leu Val Glu Gly Leu

290	295	300

Tyr Leu His Ser Leu Ile Phe Met Ala Phe Phe Ser Glu Lys Lys Tyr Leu Trp Gly Phe Thr Ile Phe Gly Trp Gly Leu Pro Ala Val Phe Val Ala Val Trp Val Gly Val Arg Ala Thr Leu Ala Asn Thr Gly Cys Trp Asp Leu Ser Ser Gly His Lys Lys Trp Ile Ile Gln Val Pro Ile Leu Ala Ser Val Val Leu Asn Phe Ile Leu Phe Ile Asn Ile Ile Arg Val Leu Ala Thr Lys Leu Arg Glu Thr Asn Ala Gly Arg Cys Asp Thr Arg Gln Gln Tyr Arg Lys Leu Leu Arg Ser Thr Leu Val Leu Val Pro Leu Phe Gly Val His Tyr Thr Val Phe Met Ala Leu Pro Tyr Thr Glu Val Ser Gly Thr Leu Trp Gln Ile Gln Met His Tyr Glu Met Leu Phe Asn Ser Phe Gln Gly Phe Phe Val Ala Ile Ile Tyr Cys Phe Cys Asn Gly Glu Val Gln Ala Glu Ile Arg Lys Ser Trp Ser Arg Trp Thr Leu Ala Leu Asp Phe Lys Arg Lys Ala Arg Ser Gly Ser Ser Ser Tyr Ser Tyr Gly Pro Met Val Ser His Thr Ser Val Thr Asn Val Gly Pro Arg Ala Gly Leu Ser Leu Pro Leu Ser Pro Arg Leu Pro Pro Ala Thr Thr Asn Gly His Ser Gln Leu Pro Gly His Ala Lys Pro Gly Ala Pro Ala Thr

Glu Thr Glu Thr Leu Pro Val Thr Met Ala Val Pro Lys Asp Asp Gly 545

Phe Leu Asn Gly Ser Cys Ser Gly Leu Asp Glu Glu Ala Ser Gly Ser 575

Ala Arg Pro Pro Pro Leu Leu Gln Glu Glu Trp Glu Thr Val Met 580 585 590

<210> 2C

<211> 591

<212> PRT

<213> Mus Musculus

<400> 2C

Met Gly Thr Ala Arg Ile Ala Pro Ser Leu Ala Leu Leu Cys Cys 1 5 10 15

Pro Val Leu Ser Ser Ala Tyr Ala Leu Val Asp Ala Asp Asp Val Phe 20 25 30

Thr Lys Glu Glu Gln Ile Phe Leu Leu His Arg Ala Gln Ala Gln Cys 35 40 45

Asp Lys Leu Leu Lys Glu Val Leu His Thr Ala Ala Asn Ile Met Glu 50 55 60

Ser Asp Lys Gly Trp Thr Pro Ala Ser Thr Ser Gly Lys Pro Arg Lys 65 70 75 80

Glu Lys Ala Pro Gly Lys Phe Tyr Pro Glu Ser Lys Glu Asn Lys Asp 85 90 95

Val Pro Thr Gly Ser Arg Arg Gly Arg Pro Cys Leu Pro Glu Trp
100 105 110

Asp Asn Ile Val Cys Trp Pro Leu Gly Ala Pro Gly Glu Val Val Ala 115 120 125

Val Pro Cys Pro Asp Tyr Ile Tyr Asp Phe Asn His Lys Gly His Ala 130 135 140

Tyr Arg Arg Cys Asp Arg Asn Gly Ser Trp Glu Val Val Pro Gly His 145 150 155 160

Asn Arg Thr Trp Ala Asn Tyr Ser Glu Cys Leu Lys Phe Met Thr Asn Glu Thr Arg Glu Arg Glu Val Phe Asp Arg Leu Gly Met Ile Tyr Thr Val Gly Tyr Ser Met Ser Leu Ala Ser Leu Thr Val Ala Val Leu Ile Leu Ala Tyr Phe Arg Arg Leu His Cys Thr Arg Asn Tyr Ile His Met His Met Phe Leu Ser Phe Met Leu Arg Ala Ala Ser Ile Phe Val Lys Asp Ala Val Leu Tyr Ser Gly Phe Thr Leu Asp Glu Ala Glu Arg Leu Thr Glu Glu Glu Leu His Ile Ile Ala Gln Val Pro Pro Pro Ala Ala Ala Ala Val Gly Tyr Ala Gly Cys Arg Val Ala Val Thr Phe Phe Leu Tyr Phe Leu Ala Thr Asn Tyr Tyr Trp Ile Leu Val Glu Gly Leu Tyr Leu His Ser Leu Ile Phe Met Ala Phe Phe Ser Glu Lys Lys Tyr Leu Trp Gly Phe Thr Ile Phe Gly Trp Gly Leu Pro Ala Val Phe Val Ala Val Trp Val Gly Val Arg Ala Thr Leu Ala Asn Thr Gly Cys Trp Asp Leu Ser Ser Gly His Lys Lys Trp Ile Ile Gln Val Pro Ile Leu Ala Ser Val Val Leu Asn Phe Ile Leu Phe Ile Asn Ile Ile Arg Val 370 375 Leu Ala Thr Lys Leu Arg Glu Thr Asn Ala Gly Arg Cys Asp Thr Arg Gln Gln Tyr Arg Lys Leu Leu Arg Ser Thr Leu Val Leu Val Pro Leu Phe Gly Val His Tyr Thr Val Phe Met Ala Leu Pro Tyr Thr Glu Val Ser Gly Thr Leu Trp Gln Ile Gln Met His Tyr Glu Met Leu Phe Asn 430

Ser Phe Gln Gly Phe Phe Val Ala Ile Ile Tyr Cys Phe Cys Asn Gly 450

Glu Val Gln Ala Glu Ile Arg Lys Ser Trp Ser Arg Trp Thr Leu Ala 465 470 475 480

Leu Asp Phe Lys Arg Lys Ala Arg Ser Gly Ser Ser Ser Tyr Ser Tyr 485 490 495

Gly Pro Met Gly Ala His Thr Ser Val Thr Asn Val Gly Pro Arg Ala 500 505 510

Gly Leu Ser Leu Pro Leu Ser Pro Arg Leu Leu Pro Ala Thr Thr Asn 515 520 525

Gly His Ser Gln Leu Pro Gly His Ala Lys Pro Gly Ala Pro Ala Ile 530 540

Glu Asn Glu Thr Ile Pro Val Thr Met Thr Val Pro Lys Asp Asp Gly 545 550 555 560

Phe Leu Asn Gly Ser Cys Ser Gly Leu Asp Glu Glu Ala Ser Gly Ser 565 570 575

Ala Arg Pro Pro Pro Leu Leu Gln Glu Glu Trp Glu Thr Val Met 580 585 590

<210> 2D

<211> 593

<212> PRT

<213> Homo Sapiens

<400> 2D

Met Gly Thr Ala Arg Ile Ala Pro Gly Leu Ala Leu Leu Cys Cys 1 5 10 15

Pro Val Leu Ser Ser Ala Tyr Ala Leu Val Asp Ala Asp Asp Val Met 20 25 30

Thr	Lys	Glu 35	Glu	Gln	Ile	Phe	Leu 40	Leu	His	Arg	Ala	Gln 45	Ala	Gln	Cys
Glu	Lys 50	Arg	Leu	Lys	Glu	Val 55	Leu	Gln	Arg	Pro	Ala 60	Ser	Ile	Met	Glu
Ser 65	Asp	Lys	Gly	Trp	Thr 70	Ser	Ala	Ser	Thr	Ser 75	Gly	Lys	Pro	Arg	Lys 80
Asp	Lys	Ala	Ser	Gly 85	Lys	Leu	Tyr	Pro	Glu 90	Ser	Glu	Glu	Asp	Lys 95	Glu
Ala	Pro	Thr	Gly 100	Ser	Arg	Tyr	Arg	Gly 105	Arg	Pro	Суѕ	Leu	Pro 110	Glu	Trp
Asp	His	Ile 115	Leu	Cys	Trp	Pro	Leu 120	Gly	Ala	Pro	Gly	Glu 125	Val	Val	Ala
Val	Pro 130	Cys	Pro	Asp	Tyr	Ile 135	Tyr	Asp	Phe	Asn	His 140	Lys	Gly	His	Ala
145					Arg 150					155					160
				165	Asn				170					175	
			180					185					190		Thr
		195					200					205			Ile
	210				Arg	215					220				
225					Phe 230					235					240
				245					250					255	
Thr	Glu	Glu	Glu 260		Arg	Ala	Ile	Ala 265		Ala	Pro	Pro	Pro 270		Ala

Thr Ala Ala Ala Gly Tyr Ala Gly Cys Arg Val Ala Val Thr Phe Phe Leu Tyr Phe Leu Ala Thr Asn Tyr Tyr Trp Ile Leu Val Glu Gly Leu Tyr Leu His Ser Leu Ile Phe Met Ala Phe Phe Ser Glu Lys Lys Tyr Leu Trp Gly Phe Thr Val Phe Gly Trp Gly Leu Pro Ala Val Phe Val Ala Val Trp Val Ser Val Arg Ala Thr Leu Ala Asn Thr Gly Cys Trp Asp Leu Ser Ser Gly Asn Lys Lys Trp Ile Ile Gln Val Pro Ile Leu Ala Ser Ile Val Leu Asn Phe Ile Leu Phe Ile Asn Ile Val Arg Val 375 380 Leu Ala Thr Lys Leu Arg Glu Thr Asn Ala Gly Arg Cys Asp Thr Arg Gln Gln Tyr Arg Lys Leu Leu Lys Ser Thr Leu Val Leu Met Pro Leu 405 410 Phe Gly Val His Tyr Ile Val Phe Met Ala Thr Pro Tyr Thr Glu Val Ser Gly Thr Leu Trp Gln Val Gln Met His Tyr Glu Met Leu Phe Asn Ser Phe Gln Gly Phe Phe Val Ala Ile Ile Tyr Cys Phe Cys Asn Gly Glu Val Gln Ala Glu Ile Lys Lys Ser Trp Ser Arg Trp Thr Leu Ala Leu Asp Phe Lys Arg Lys Ala Arg Ser Gly Ser Ser Ser Tyr Ser Tyr Gly Pro Met Val Ser His Thr Ser Val Thr Asn Val Gly Pro Arg Val Gly Leu Gly Leu Pro Leu Ser Pro Arg Leu Leu Pro Thr Ala Thr Thr 515 520 525

Asn	Gly 530	His	Pro	Gln	Leu	Pro 535	Gly	His	Ala	Lys	Pro 540	Gly	Thr	Pro	Ala	
Leu 545	Glu	Thr	Leu	Glu	Thr 550	Thr	Pro	Pro	Ala	Met 555	Ala	Ala	Pro	Lys	Asp 560	
Asp	Gly	Phe	Leu	Asn 565	Gly	Ser	Cys	Ser	Gly 570	Leu	Asp	Glu	Glu	Ala 575	Ser	
Gly	Pro	Glu	Arg 580	Pro	Pro	Ala	Leu	Leu 585	Gln	Glu	Glu	Trp	Glu 590	Thr	Val	
Met																
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Cys 1	Thr	Leu	Asp	Glu 5	Ala	Glu	Arg	Leu	Thr 10	Glu	. Glu	Glu	Leu	His 15		
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<40 tgc		5 ggat	ccac	caact	gg											20
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<40 gto		6 gagt	ccaa	accct	-gg											20